Identification of Factors Influencing Educators Perception of Blended Learning and Triggering Adoption Decisions

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Abstract

This study employs theoretical frameworks from the past to determine the factors that drive instructors to adopt blended learning (BL). Using a quantitative approach, the extended Technology Acceptance Model (TAM) was utilized to examine a sample size of 302 instructors from four multi-campus Lebanese universities that offer a business degree. The research findings indicate that ease of use has a positive impact on both attitude and usefulness towards BL. Furthermore, the perceived usefulness of BL positively influences the attitude and intention to use the system. To achieve greater adoption of BL, technical support should be a central component of educators' provision since it has a positive effect on the perceived ease of use. Additionally, subjective norms, such as positive image and usefulness, have a positive influence on educators, as they are influenced by important people in their lives, including their supervisors, as well as by the group's positive image.

Keywords: *Blended learning, Technology Acceptance Model (TAM), Educators, Teaching practices, Higher Education.*

1. Introduction

A digital revolution coupled with developments in technologies like computing devices, flexible classroom design, and Massive Open Online Courses (MOOC) is thoroughly reshaping the mode and accessibility of learning and teaching (Young, 2021; Amante et al., 2023). "Blended courses, online learning, and Massive Open Online Courses (MOOC) are moving at light speed compared to the typical university" (Mpungose, 2020b). According to the author, MOOC started by Generation Rwanda University. Education institutions are practicing new instruction types and technology-enabled teaching. Starting with early distance learning, moving to advanced e-learning, and currently, the m-learning (mobile learning) has become the latest information communication technology. Educational organizations are discovering the use of mobile devices for providing global education (Ansari & Khan, 2020).

Despite the technological changes and convenience offered by these dispersed environments, scholars do not wish to give up social interactions and human touch; thus, they remain accustomed to face-to-face classrooms (Zhu et al., 2022). The splendor of the hybrid model, or BL, is that it enhances the human element. The instructor engages,

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guides, and inspires students, leaving other chores like grading to computers (Zhang, 2020). The interactive content of BL adds a "human touch" to teaching, allowing instructors to create an elevated level of interest, accountability, and real assessment (Bai, et al., 2019). Consequently, programs combining face-to-face interaction with the right amount of human involvement and technology resulted in the most positive results. "Live" human mentors are still required to ensure quality distance education (Serhan, 2020). Instructors' feedback is crucial to support students in their journey of studying. Recent changes in higher education have affected the ability of instructors to give students personalized feedback. Therefore, instructors' feedback in blended courses depends on their expertise to know students' needs and provide the best feedback that suits their students and to understand the best media options (video and text feedback) and when to use them (Tannert & Bertelsen , 2020). Moreover, technology integration and BL, when implemented well, improve traditional methods with the use of social technology and rich media. That is by promoting ways that empower faculty with a variety of tools to serve the needs of students (Ashraf et al., 2022).

This study aims to find the current factors that lead business school instructors to use BL because. According to Bernard and his colleagues (2014), BL (the combination of both forms—classroom instruction supported by e-technologies) is more effective than classroom instruction alone. Eryilmaz's (2015) experimental study explained that students conveyed that they learned further successfully in a BL environment. In addition, Delaney, McManus, and Ng (2010) designate that BL environments improve scholars' learning results, their contentment with the course, and their general performance. Additionally, The blended learning approach targets the enhancement of students' critical thinking abilities (Dumitru et al., 2023). Nong et al. (2022) add that progress in automation has allowed for what several educators call 'flipping the classroom." In place of spending classroom time on lecturing and out-of-class periods for assignments, projects, and extra practical learning activities, up-to-date educators may have scholars watch lectures outside of class and devote in-class time for vigorous learning. Hence, the first step is to understand the determinants that affect the technology use by faculty in order to understand how blended or hybrid learning could be added to improve students' outcomes (Atwa et al., 2022). Knowing these factors will help encourage instructors to practice instructional technology outside of class (BL forms). Lebanese universities aiming to move forward may be concerned with all these changes. This determines the urgency of the chosen topic of research. This study enhances the literature, specifically the case of four multi-campus universities with campuses all over Lebanon. It aims to retest what others have investigated in different countries, building upon such work by analyzing the issue in an emerging and developing country like Lebanon. For this reason, this research will address a gap in the academic knowledge of instructors' perspectives on BL.

1.1 Problem Statement and Significance of the Problem

To maximize educational outcomes given that education institutions are being digitally challenged, special attention should be paid to the factors that aid instructors in reaching the application of BL in higher education. This objective is observed as a problem of method and application. The following research problem is formulated in the form of a question that needs planned investigation. Do business school instructors have sufficient technical support and the intention to support technology integration, and are they using their skills in the adaptation of BL methods? Are business school instructors influenced by their coordinators and higher management, which is affecting their adaptation of BL? By finding the factors that lead business school instructors to use BL and solving this problem, the research develops guidelines for facilitating the application of BL by practitioners. After the introduction, problem statement, and significance, this paper is organized into four sections. A review of the literature is presented on BL, and the gap is identified. Following the development of the method, research model, and hypotheses,

data is collected and analyzed, and the results and findings are reported. The final section discusses the findings and their implications, limitations, and future avenues with an ending conclusion.

2. Literature Review

2.1 Blended Learning/ Hybrid Learning

In early reviews on BL, and according to Bliuc, Goodyear, and Ellis (2007), very few references to the term predate the year 2000; yet, hundreds of articles have been including the term since then. Many definitions have been given in the literature for "black literature," and there has been substantial discussion even of the meaning of the term itself; Bernard et al. (2014) mentioned four definitions for "black literature." The authors quote four patterns, which they call a form of BL: "(1) a mix of Web-based technologies; (2) a mix of various pedagogical approaches (for example, constructivism, behaviorism, and cognitivism); (3) a combination of any form of instructional technology with face-to-face instructor-led conditions; or (4) a combination of instructional technology with actual job tasks to form an effective mix of learning and working" (p. 91) Constructivists stress the importance of experiences, experimentation, and the construction of knowledge and draw on the vast experiences of the learner; constructivism can be broadened and applied to the design of any instructional technology application (Deng et al., 2020). Few technology applications like drill and practice and tutorials are linked solely with directed education. Most others, including problematic solving, multimedia production, and web-based learning, can improve either directed instruction or constructivist learning, depending on how they are utilized (Roblyer & Doering, 2010). This study adopts a definition closer to number three above and the one adopted by Bonk and Graham (2012), where BL is defined as the combination of face-to-face (co-present) interactions and on-line web-based systems emphasizing the use of computer-based technologies outside of class time. The following section explains how instructors' adoption of BL has been studied in literature.

2.2 Instructors Adoption and Acceptance of Blended learning

Researchers studied the topic from many perspectives (Antwi-Boampong, 2022). Platonova et al. (2022) included the most common tools and their usage by instructors from a university that has integrated BL into its teaching methodologies, especially to assist in class management and to provide students with educational resources and actions. Holden and Randa (2011) worked on understanding the influence of perceived usability and technology self-efficacy on teachers' technology acceptance and integrated perceived usability into TAM, which explained more variance and was more influential to TAM elements than its non-existence. Technology self-efficacy (TSE) was more helpful than computer self-efficacy (CSE). Yu et al., (2022) assessed the factors that influence instructors' acceptance of educational technology in information systems courses and other classrooms. As for Lebanon, the computer self-efficacy of the Lebanese University faculty (the only public university in Lebanon) was examined. The author's research designates that computer self-efficacy (CSE) might be one cause of who uses technology and who does not in classroom and distance learning (Saleh, 2008). More recently, in 2015, a pilot at an institute in Lebanon was conducted to test the percentage of students that use virtual learning. The study found that only 21% of students reported using virtual education platforms such as "Blackboard Learn" and "web feed syndication, using technology such as rich site summaries (RSS)" (Tarhini, Hassouna, Abbasi, & Orozco, 2015, p. 30). In 2015, Tarhini, Hone, and Liu examined the social, organizational, and individual factors that may affect students' acceptance of e-learning systems in higher education. Their study was in a cross-cultural context, where the sample of students was from two private Lebanese universities and one university in England. Their questionnaire was constructed based on an extended TAM. A study by Nasser and

Abouchedid (2000) examined the attitudes of school teachers and directors towards the worth and value of implementing a distance education program in Lebanon. Their study showed that school directors were negative about the possibility of distance education meeting the training needs of school teachers, reporting costly training and the acquisition of technologies for distance education as inconceivable. Alternatively, teachers held a more positive view of distance education and showed a willingness to familiarize themselves with new technologies and practices (Rasheed et al., 2020). Abouchedid and Eid (2004) studied the problems and potentials of implementing e-learning in Arab educational institutions by analyzing the attitudes of university professors in Lebanon towards three e-learning dimensions. Their findings show that the university council has not taken significant action towards applying e-learning, and the institution of higher education does not have supervisory policies that enable the practice of e-learning in education and training. The authors argued that Lebanon and the Arab countries are still far behind, although the e-learning revolution is happening worldwide (Abouchedid & Eid, 2004). Tarhini (2013) tested his framework based on TAM and other models from social psychology and investigated the moderating effect of Hofstede's four cultural dimensions on the individual. 1197 questionnaires were collected from students from both Lebanon and the UK who were using web-based learning systems. It was also found that BL is still in its infancy in the United Arab Emirates. A qualitative research study of a particular university in the United Arab Emirates investigated students' awareness of BL with the aim of determining proposals for course schemes that would meet the desires of mature students. The study indicated that BL was still in its early years in the United Arab Emirates (Tamim, 2018). In addition, the usage of the web by faculty members at Kuwait University was explored, where the primary use of internet information by faculty was for research, publication, and personal concern and less so for teaching and class assignments (Al-Ansari, 2006). In a more recent quasi-experimental research study organized to assess the consequence and usefulness of a "blended pedagogical approach of teaching and learning on students' academic achievement, motivation, and attitudes," at Kuwait University, Safar and AlKhezzi (2013) implied that the potentials of a blended approach are endless, effective, and fun. The authors also made recommendations to Kuwait University and the Kuwait Ministry of Education and Higher Education to encourage teaching staff to utilize a blended approach. Whereas in the case of Bahrain, the author was investigating the situation of usage of educational technology at the University of Bahrain from three aspects: its adoption by the institution in instruction and learning practices, difficulties opposing the implementation of ET, and the effects of ET on student accomplishment and academic team-teaching effectiveness. Revisions associated with instructors' adoption of BL in Lebanon seem very rare; however, studies related to the topic for Arab countries, including Kuwait, Bahrain, and Saudi Arabia, were located, which shaped a gap in understanding the factors that lead Lebanese business instructors to use BL that needs to be addressed.

2.3 The Methods for Studying Factors for Instructors' Acceptance of BL

The current literature review realized that nearly half of the studies used a quantitative method as a study type (Zhaoet et al., 2022). Relatively fewer studies discussed the issue using qualitative research, as in the cases of Oluniyi & Apena (2016), Szeto (2014), and Watty, McKay, & Ngo (2016). Benson and Kolsaker (2015) also used a qualitative method with semi- structured interviews focusing on management academics and highlighted that their study was qualitatively exploratory. Fewer authors used mixed methods, conceptual methods, and descriptive methods. As for the data collection method, studies used a variety of methods, including interviews, surveys, questionnaires, observation, experimentation, case study observation, reflection on oral and written opinions, and finally a semi-structured interview for the qualitative exploratory article. The synthesis of the number of studied participants in these different articles aided in somehow determining the number of survey respondents that this research is expected to include. The majority of the quantitative studies included a sample of 80 to 150

instructors. with one exception, which included 800 participants since the sample was 25 from all 50 states in the USA (Ahadiat, 2008). As for the qualitative studies, the sample was quite small, ranging between 28 and 66. Moreover, studies that included students had a much higher sample size, ranging from 150 to 700, which is logical given that students' enrollment number is relatively higher than instructors and academics. At this point, though the articles chosen intended to study and measure instructors' perceptions and intentions to use educational technology, three articles that measure students' perceptions were included. They were included since they had the same dependent variable and sometimes independent variables that the current study intends to analyze, yet the sample was students instead of instructors. For instance, Gómez-Rey, Barbera, and Fernández-Navarro (2016) studied students and analyzed their study using Hofstede's cultural dimension, which was also used by Thowfeek and Jaafar (2012) in studying 77 academic staff. The study sites of articles ranged between one university (around 40% of the studies) (Ahmadi, Keshavarzi, & Foroutan, 2011; AlAmmary, 2012; Ball & Levy, 2008; Cucu, 2014; Gibson, Harris, & Colaric, 2008; Karaduman & Mencet, 2013; Kim, 2015; Larson, 2009; Oluniyi & Apena, 2016; Phosuwan, Sopeerak, & Voraroon, 2013; Thowfeek & Jaafar, 2012). Others included two universities or more. They mentioned studying accredited business colleges, accredited business schools, areas of management from colleges and universities across the US, faculty from fifty states of the US, UK business schools, five universities in Saudi Arabia, and higher education institutions in Kuwait. As for the country location, 32% of the articles were from the US. Other countries involved are Australia, Jordan, Nigeria, the UK, Romania, Turkey, Sri Lanka, Kuwait, Bahrain, KSA, Thailand, Korea, and Lebanon. Noting one exceptional study that included four universities in four countries, China, Spain, the USA, and Mexico (Al-Ammary, 2011; AlAmmary, 2012; Alrasheedi & Capretz, 2015; Alshare, Al-Dwairi, & Akour, 2003; Benson & Kolsaker, 2015; Cucu, 2014; Gómez-Rey et al., 2016; Karaduman & Mencet, 2013; Kim, 2015; Koſar, 2016; Nasser & Abouchedid, 2000; Oluniyi & Apena, 2016; Phosuwan et al., 2013; Saleh, 2008; Selim & Chiravuri, 2015; Tarhini et al., 2015; Tarhini, Hone, et al., 2015; Thowfeek & Jaafar, 2012; Watty et al., 2016). Almost half of the reviewed articles—around 52%—did not mention the theory or theoretical perspective of their study. However, TAM Davis (1989) was recognized in many studies. Two of the studies also used constructivist theories. Hofstede's cultural dimensions were adopted in two as well as one grounded theory. Furthermore, TAM theory was used to examine the degree of technological acceptance of faculty and the acceptance of online education (Gibson et al., 2008; Mokhtar, Katan, & Hidayat-ur-Rehman, 2018) and was therefore chosen for the current study.

2.4 Technology Acceptance Model

The individual acceptance of technology has been prominent in literature. TAM, presented by Davis (1989), was founded on the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975). It was precisely intended for clarifying and forecasting user acceptance of particular forms of technology. The objective of TAM is to offer a clarification of the determinates of computer reception in global terms to be able to explain end user behavior across a wide range of end user computing technologies, being both pragmatic and theoretically justified (Davis, Bagozzi, & Warshaw, 1989). Several researchers have well implemented TAM to inspect the acceptance of novel technologies. For instance, personal computers, as discussed by Igbaria, Zinatelli, Cragg, & Cavaye (1997), and word processors and spreadsheets, as quoted by Ngai, Poon, & Chan (2007). Therefore, this study will be based on the Davis TAM model, not only because it is a well-accepted theoretically grounded general model of user acceptance of new information technologies (Su, & Li, 2021), but also because it has been used in previous education studies (Watty et al., 2016; Tselios, Daskalakis, & Papadopoulou, 2011; and Gibson et al., 2008). Tselios et al. (2011) adopted a TAM-based model in order to investigate Greek university students' "attitudes toward BL." TAM's high validity has been proven empirically in many previous studies, as quoted by Alharbi and Drew

(2014). Moreover, data from Yeou (2016) and Bachtiar, Rachmadi, and Pradana (2014) showed that TAM (previously validated model) is still a solid theoretical model whose validity can cover BL settings, and can be used to examine the acceptance of BL.

3. Methodology

3.1 Method Rationale

Based on the current study's literature review, few studies have discussed BL instructors' acceptance in a country that does not approve online degrees, such as Lebanon. The survey design was used to conduct this study, which is a quantitative design that reflects post positivist philosophical assumptions. "The reduction to a parsimonious set of variables, tightly controlled through design or statistical analysis, provides measures or observations for testing a theory" (Creswell, 2014, p. 200). Quantitative research was used, because, from the current study's literature review, most researchers found this method appropriate in the field of education research. Moreover, survey design delivers a quantitative or numeric description of opinions, attitudes, and trends in a population by studying a sample of the population. This research design offers an opportunity for generalizations and implications for the population to be drawn from the sample results (Creswell, 2014).

3.2. Research Model and Hypothesis

The current study model extends the constructs of TAM to include technical support, which was previously included by Ngai et al. (2007) and Selim & Chiravuri (2015). Moreover, drawing on Davis et al. (1989), who say that user support consultants, training, and documentation are other external factors that may influence ease of use, this study includes technical support as a construct. Further, it extends to include two social influence processes (subjective norm and image) suggested by Venkatesh and Davis (2000) (Figure 1).
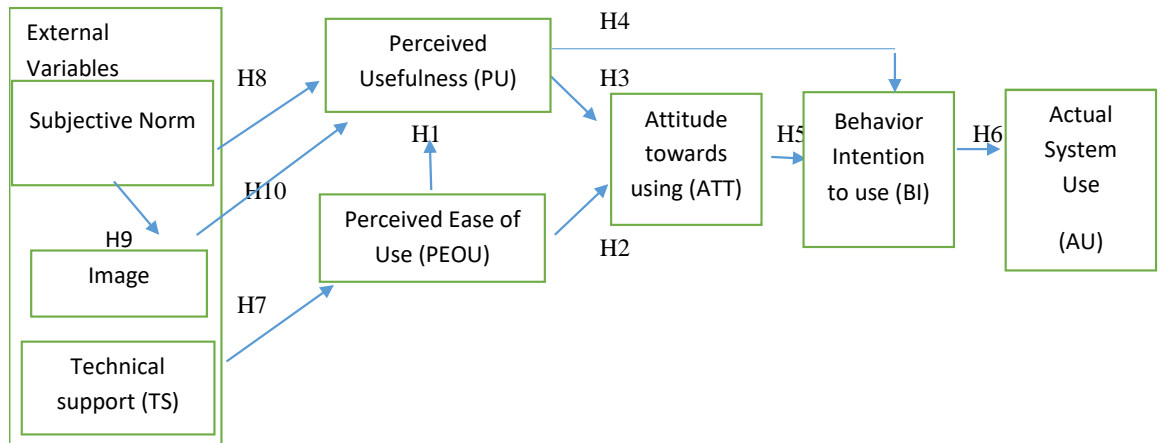

Figure 1 The Research Model of the Study

Perceived usefulness (PU) is defined as "the degree to which an individual believes that using a particular system would enhance his or her job performance" (Davis, 1985, p.320). Accordingly, it measures the degree of perceived performance, productivity, effectiveness, and usefulness of a given technology (Davis, 1989). This study used PU to investigate instructors' views about BL techniques. This construct was chosen because of the direct and significant stimulus on users' attitudes toward using technology and behavioral intention to use systems, derived from preceding studies (Holden & Rada,

2011; Tselios et al., 2011). Perceived Ease of Use (PEOU) is explained as the degree to which an individual believes that using a particular system would be free of physical and mental effort (Davis, 1989). PEOU is assumed to have a substantial direct effect on perceived usefulness since, all else being equal, a system that is easier to use will result in increased job performance (i.e., greater usefulness) for the user (Davis, 1985). The PEOU factor was selected to investigate instructors' attitudes towards using BL techniques in order to forecast the intent of Lebanese instructors to expend these systems. TAM postulates that PEOU and PU forecast the operator's attitude (ATT) with respect to a system. It is anticipated that operators with a high level of PU are more likely to have optimistic attitudes toward the technology. Likewise, users are also expected to encourage optimistic attitudes when they have a high level of PEOU. Therefore, PEOU ultimately has an influence on ATTs through PU. ATT is a predictor that examines persons' views concerning the usage of a certain technology (Holden & Randa, 2011). The casual association between PU, PEOU, and ATT towards using the technology is maintained in a substantial number of studies (Holden & Randa, 2011; Ngai et al., 2007). Furthermore, Holden and Randa (2011) add that attitudes or behavioral intentions toward using technology significantly influence actual technology usage or behavior. Though, in another study about TAM and e-learning, ATT toward expending did not have a straight and significant influence on intention to use (Masrom, 2007). This study unfolds the significance of ATT on intention in the context of Lebanon. The existence of behavioral intention (BI) in the TAM is one of the main changes with TRA (Tarhini, Scott, Sharma, & Abbasi, 2015). BI is thought to be an instant precursor of usage behavior and is a sign of a person's willingness to engage in a precise behavior. In TAM, both PU and PEOU impact one's intent to practice the technology, which impacts the practice behavior (Davis, 1989). The literature supports a substantial relationship between PU, PEOU, ATT, and BI (Venkatesh & Davis, 2000; Davis et al., 1989), mainly in the setting of e-learning studies (Alharbi & Drew, 2014; Tselios et al., 2011). AU is the dependent variable in the context of the current study. The study tests the actual system use (AU) of technologies used in BL. The associations between PEOU, PU, ATT toward using, BI, and AU of BL are hypothesized as follows:

H1: Perceived ease of use positively affects perceived usefulness of BL.

H2: Perceived ease of use positively affects attitudes towards using BL.

H3: Perceived usefulness positively affects attitudes towards using BL.

H4: Perceived usefulness positively affects intention to use BL.

H5: Attitude towards using positively affects intention to use BL.

H6: Intention to use positively affects actual system use BL.

Several previous studies have shown that there are various external factors that indirectly influence the acceptance of technology through perceived usefulness and PEOU (Davis et al., 1989; Szajna, 1996). In this study, technical support (TS) is expected to be one such external factor affecting the acceptance of BL for higher education. TS was defined as "knowledge people assisting the users of computer hardware and software products." (Ralph 1991, as cited in Ngai et al. 2007, p. 254) In the approval of technology for instruction, TS is one of the crucial features (Hofmann, 2002; Sumner & Hostetler, 1999; Williams, 2002), as well as in operator contentment, as quoted by Ngai et al. (2007). Information center support and management support were believed to endorse more promising attitudes toward a system among operators and information specialists and lead to better achievement for individual computing systems (Igbaria, 1990). In addition, internal and external personal computing support and training were affecting the acceptance of personal computing in small businesses (Igbaria et al., 1997). As a result, the TS was included as a construct in the current study. As a result, the following hypotheses are proposed:

H7 Technical support positively affects the perceived ease of use of BL.

Moreover, organizational support, including management support, was thought to endorse more favorable attitudes about the system among users and lead to greater success (Ngai et al. 2007). Venkatesh and Davis (2000) studied social influences through subjective norms (SN), defined as a "person's perception that most people who are important to him think he should or should not perform the behavior in question" (Fishbein and Ajzen 1975, as quoted by Venkatesh & Davis 2000, p. 187). Moreover, Venkatesh and Davis (2000) argue that the basis for a straight outcome of SN on intention is that individuals may select and implement an action, even though they are not positive about it or its significance. That is, if they reason that one or more central referents or supervisors consider they should, then they are adequately inspired to conform to the supervisor (Venkatesh & Davis, 2000). The results on the effect of SN on user intent are quite varied. When Mathieson (1991), as cited by Venkatesh and Davis (2000), found no significant outcome of SN on intention, Taylor and Todd (1995) and Venkatesh and Davis (2000) did find a significant effect. The current study investigates the effect of SN on PU and adopts the measurement of the construct from Taylor and Todd (1995) and Venkatesh and Davis (2000). People frequently react to social normative influences to create or preserve a promising image within a group (Kelman, 1958, as cited by Venkatesh & Davis, 2000, p. 189). TAM2 posits that SN will positively affect image (IM) since significant members of an individual's social group at work consider that he or she should achieve a performance (for example, using BL). Accomplishing the behavior will incline one to raise his or her hand in the group (Venkatesh & Davis, 2000). Drawing on Venkatesh and Davis (2000), individuals may perceive that using a system will lead to enhancements in job performance, "which is the definition of perceived usefulness indirectly due to image enhancement, over and above any performance benefits directly attributable to system use" (p. 189). This study examines the outcome of SN on IM, coupled with the effect of IM on PU. As a result, the following hypotheses are proposed:

H8 Subjective Norm positively affects perceived usefulness of a BL.

H9 Subjective Norm positively affects image.

H10 Image positively affects perceived usefulness of a BL.

3.3 Research Methodology

The sites are four higher education multi-campus universities with campuses all over Lebanon. They are private universities whose mission is to deliver accessible and affordable higher education of superior quality. Furthermore, all the selected universities endeavor to support the values, promise student support and communication, and continually evaluate curricula for innovative outcomes. The population of this research was the number of business instructors (both part time and full time) in all eighteen campuses, divided as follows: nine for the first university, three for the second, four for the third, and two for the fourth university. The population of the business faculty included 302 instructors, distributed as follows: 164 in the first, 20 in the second, and 94 and 24 in the third and fourth universities, respectively. The non-random sampling technique included total population sampling. Selecting the total population and inviting the entire population will avoid missing insights about the perceptions of instructors, knowing that the population size is not very large. The response rate was 46.36%. Of the 302 questionnaires distributed, 140 were collected and used for analysis. Moreover, "a single-stage sampling procedure is used, in which the scholar has access to names in the population and can sample the people (or other elements) directly" (Creswell, 2014, p. 204).

The questionnaire measured TAM and extension of TAM constructs using a 5-point Likert response scale. as common (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). Seven variables related to educational BL were used. Twenty

items were measured in agreement with the present thesis's model. The measured items include PEOU (3 items), PU (3 items), ATT toward usage (3 items), BI to use (2 items), AU (2 items), and TS as an external factor (3 items), SN (2 items), and Image (2 items). The questionnaire ended with two unstructured question formats to allow participants to share their thoughts about the topic. Two optional questions were included to check whether participants wanted to receive the final result of the research and to question if they thought that the final results would influence their habits to change.

3.4 Pre-test of the Questionnaire

To find out if the chosen instrument was clear and unmistakable and to confirm that the proposed study has been conceptually well planned, a mini version of the main study, referred to as a "pilot study," was undertaken prior to the main study. The survey was pre-tested with the help of five instructors to check for the ease and understandability of the questions. Administering the surveys to a small number of instructors gave an idea of the approximate time for completion, which is 4 minutes. After the pre-test, a few adjustments were made, including the modification of a few questions, and the final revision of the questionnaire was made.

3.5 Ethical Considerations

Unethical issues were avoided by following the university's guidelines. Respondents were attentive to what the study involved and used; the anonymity of participants was protected, and the records were only used for the purposes of the study. The bias was reduced since all participants were proficient in English, which was the language used in the questionnaire. In addition to that, the questionnaire was voluntary, and there was no risk in participating in the study.

4. Findings

In this study, the statistically significant results were those for which the p-value was less than or equal to an alpha (α) of 0.05 or 5%. Reliability indices showed Cronbach's alpha

(α) coefficients of 0.7 or higher.

4.1 Normality and Reliability Analysis

Testing the skewness and kurtosis of every variable was done. It is a shared way to test whether the assumptions of normality are met (George & Mallery, 2010). The values for asymmetry and kurtosis between -2 and +2 are thought to be acceptable (George & Mallery, 2010). That is, the probability of a score lying between +2 and -2 is approximately 95%. It is essential to note the fact that many statistical tests (parametric tests) should only be used when normality can be assumed or close approximations to it can be obtained (Burns & Burns, 2008). The skewness and kurtosis of all the study variables are in the acceptable range of -2 and +2. This means that the study variables are normally distributed. To examine the reliability of the internal consistency of the constructs of this study, Cronbach's is used. According to Hair et al. (1998), a cut-off point of 0.70 in the alpha's value designates an acceptable degree of reliability of the construct. Moreover, "an alpha of 0.8 or above is regarded as highly acceptable for assuming homogeneity of items, while 0.7 is the limit of acceptability" (Burns & Burns, 2008, p. 418). Hence, the internal consistency method was involved in evaluating the reliability of the survey tools in this thesis. Results showed that no items were deleted, and all the variables realized a Cronbach's alpha > 0.7 and had an acceptable degree of reliability. Table 1 presents the reliability analysis results.

Table 1: Reliability Analysis

Cronbach Alpha Coefficient	
Perceived ease of use	.703
perceived usefulness of BL	.815
attitudes towards using BL	.718
intention to use BL	.861
Attitude towards using	.840
Intention to use	.711
actual system uses BL	.721
Technical support	.723
perceived ease of use of BL	.841
Subjective Norm	.781
image	.734

4.2 Sample Characteristics

Out of the 140 participants, 50% were female and 50% were male. The age range of 30-37 had the highest frequency (56 participants). The age ranges of 38–41 and 22–29 had almost equal frequencies (25 and 24 participants). Whereas, the lowest frequencies were for ages 58–64 and 65 and above, who scored (4 and 2 participants, respectively). The sample's highest degrees were divided between master's and doctorate, with approximately 57% and 43%, respectively.

Table 2: Descriptive Statistics on Gender

Gender	Frequency	Percent
Female	70	50
Male	70	50
Total	140	100

Table 3: Descriptive Statistics on Age

Age	Frequency	Percent
22 up to 29	24	17.14
30 up to 37	56	40.00
38 up to 41	25	17.86
42 up to 49	18	12.86
50 up to 57	12	8.57
58 up to 64	4	2.86
65 or above	2	1.43
Total	140	100

Table 4: Descriptive Statistics of Educational Level

Educational Level	Frequency	Percent
Master's Degree	80	57.14
Doctorate Degree	60	42.90
Total	140	100

4.3 Hypothesis Findings

Table 5 presents the Pearson's correlation results for the evaluated constructs. The correlation analysis reported constructs had positive, significant relationships ($p<.05$) Testing the fitness of the regression model, all P-value = 0.00 and 0.01< 0.05

Table 5: Hypothesis Results

Dependent Variable	Independent Variable	R	R square	P-value	Unstandardized Coefficients	Unstandardized Coefficient P-value
Perceived usefulness	Perceived ease of use	0.71	50.73%	0.00	0.71	0.00
Attitude	Perceived ease of use	0.72	52.08%	0.00	0.72	0.00
Attitude	Perceived usefulness	0.85	71.92%	0.00	0.84	0.00
Behavioral Intention to use	Perceived usefulness	0.74	55.44%	0.00	0.73	0.00
Behavioral Intention to use	Attitude	0.75	56.61%	0.00	0.75	0.00
AU1	Behavioral Intention to use	0.28	7.71%	0.00	0.43	0.00
AU2	Behavioral Intention to use	0.24	5.73%	0.01	0.25	0.01
Perceived ease of use	Technical Support	0.35	12.15%	0.00	0.28	0.00
Perceived usefulness	Subjective Norm	0.37	14.06%	0.00	0.32	0.00
Image	Subjective Norm	0.61	37.52%	0.00	0.70	0.00
Perceived usefulness	Image	0.43	18.35%	0.00	0.32	0.00

Hypothesis 1 addressed whether PEOU positively affects the PU of BL. According to Pearson's correlations presented in Table 1, the simple correlation denoted by the R value is 0.71, indicating a strong positive correlation. The R^2 value is 50.73%; designate the percentage of the total deviation of the dependent variable PU described via the

independent PEOU variable. As PEOU increase by 1 unit, PU increases by 0.71 unit, therefore H1 is supported.

Hypothesis 2 PEOU positively affects ATT toward using BL, showing a strong positive correlation (R value of 0.72) with an R^2 value of 52.08%. Moreover, as PEOU increases by 1 unit, PU increases by 0.72 units, and H2 is supported.

The third and fourth hypotheses addressed whether PU positively affects ATT towards and positively affects intention to use BL. Both R indicated a strong positive correlation of 0.85 and 0.74, respectively. The R^2 values were 71.92% and 55.44%. H3 and H4 were both supported.

The same analysis was performed for the fifth and sixth hypotheses, and similar results were inferred. However, it is worth noting that hypothesis 6, "Intention to use" positively affects AU, indicated a positive-weak correlation of 0.28 and 0.24 for AU1 and AU2. As for H7, TS positively affects the PEOU, which indicates a positive-moderate correlation of 0.35. H7 was supported, denoting that TS affects the instructors' PEOU for BL. The hypotheses 8 and 9—that SN has a positive effect on PU and a positive effect on IM— were investigated. The results indicate a positive-moderate correlation (R = 0.37) and an R2 value of 14.06% for H8, which is supported. As for H9, the R value is 0.61, indicating a strong positive correlation. The R2 value is 37.52%, and H9 is supported. As for the last hypothesis, H10 IM positively affects PU. The R value is 0.43, indicating positive-moderate correlation with an R^2 value of 18.35%. H10 is supported. The suggested relationships amongst social influences and TAM constructs were all supported; however, it was concluded that both SN/PU and I/PU showed positive-medium correlation. The correlation for SN/I was a strong positive correlation.

Path Analysis

In tandem with the regression analysis detailed above, we augmented our analytical approach by conducting a path analysis, affording us a more comprehensive understanding of the intricate relationships between variables. Path analysis serves as a powerful tool in elucidating the direct and indirect effects of variables within a complex theoretical framework. By systematically delineating the pathways of influence, we sought to corroborate and fortify the findings obtained through regression analysis, thereby enhancing the robustness and reliability of our conclusions. This additional analytical technique facilitates a more nuanced examination of the hypothesized relationships, allowing for a holistic assessment of the interplay between variables and their collective impact on the outcome of interest. By integrating path analysis into our methodology, we aim to provide a more comprehensive and well-rounded assessment of the underlying mechanisms driving user perceptions and behaviors in the context of BL adoption. This multi-method approach bolsters the validity of our conclusions and affirms the robustness of the observed relationships between the examined variables.

Table 6 displays the regression weights corresponding to the hypotheses. It is noteworthy that all paths demonstrate statistical significance, with p-values falling below the designated alpha level of 0.05 for each hypothesis. Consequently, all hypotheses receive support at the 5% significance threshold.

Table 6 Regression Weights

			Estimate	S.E.	C.R.	P
PU of BL	<---	PEOU	.239	.025	9.561	.002
ATT toward using BL	<---	PEOU	.212	.016	13.251	***
ATT toward using BL	<---	PU	.647	.037	17.481	***
intention to use BL	<---	PU	.123	.025	8.561	.004

			Estimate	S.E.	C.R.	P
intention to use BL	<---	attitude towards using	.122	.024	8.551	.004
AU	<---	intention to use BL	.547	.027	16.481	***
PEOU	<---	TS	.597	.035	16.491	***
PU	<---	SN	.239	.025	9.561	.002
IM	<---	SN	.232	.021	8.541	.004
PU	<---	IM	.231	.022	8.591	.004

The results of the statistical analysis unveil critical insights into the relationships between various factors and users' perceptions and behaviors regarding BL (presumably a technology or system). Notably, Perceived Ease of Use (PEOU) exerts a substantial influence on Perceived Usefulness (PU) and Attitude towards BL. These results indicate that users who perceive BL as easy to use are significantly more likely to consider it useful and develop positive attitudes towards its adoption. Importantly, these relationships are highly significant, with a C.R. of 9.561 and a p-value of 0.002 (***), underscoring their statistical robustness.

Furthermore, the strong impact of PU on Attitude towards using BL reinforces the pivotal role of perceived utility in shaping user perspectives. When users perceive BL as functionally advantageous, they are more inclined to exhibit a favorable attitude towards its use. This relationship is highly significant as well, with a C.R. of 17.481 and a p-value of less than 0.001 (***).

The influence of PU extends beyond attitude formation, permeating into users' intentions to actually implement BL. This is a statistically significant finding with a C.R. of 8.561 and a p-value of 0.004 (), highlighting the direct impact of perceived utility on the intention to adopt BL. Moreover, users' Attitude towards using BL strongly predicts their intention to use it, with a C.R. of 8.551 and a p-value of 0.004 (), underscoring the role of positive attitudes in driving user intention.

This cascade of influence culminates in a notable connection between intention and actual usage, with a highly significant result showing a C.R. of 16.481 and a p-value of less than 0.001 (***). Users who express an intent to use BL are more likely to translate that intent into tangible usage.

The study also highlights the significance of external factors in shaping user perceptions. Technology Support (TS) significantly influences the perceived ease of use, with a C.R. of 16.491 and a p-value of less than 0.001 (), indicating that robust technical support systems contribute to users' perceptions of BL's user-friendliness. Social Norms (SN) emerge as substantial influencers, impacting both the perceived usefulness of BL and the associated Image (IM). The C.R. for the influence of SN on PU is 9.561 with a p-value of 0.002 (), while the C.R. for the influence of SN on IM is 8.541 with a p-value of 0.004 (**). These results underscore the pivotal role of the social context and prevailing norms surrounding BL usage in shaping user perceptions.

In summary, the results of this analysis offer a comprehensive understanding of the influential factors that shape user perceptions and behaviors regarding BL adoption. These findings have far-reaching implications for designing effective strategies and interventions to enhance user acceptance and utilization of BL, ultimately contributing to the successful integration of this technology.

5. Discussion and Practical Implications

Based on the results generated from this study, TS has a straight effect on the PEOU in BL, which highlights the significance of training and user support in impelling the insights of users and, ultimately, their practice of the system. This is in agreement with Selim and Chiravuri (2015). This study delivers additional insights for educators applying BL in their courses. The findings designate PEOU as an important variable relating the eternal variable TS with PU, ATT, BI, and AU, which is in agreement with Ngai et al. (2007). This is to suggest that, in applying a method, the emphasis must be on inspiring the self-confidence of individuals. Moreover, putting emphasis on their perception of a system is also vital. When users are stressed, they might believe that the method is excessively hard and that the welfare of using it is overshadowed by the energy of applying it. Ultimately, they may be hesitant to use an innovation, beating the drive of presenting it. Upcoming studies may extend the results of this study by examining the area of self-efficacy. Self-efficacy addresses one's confidence in one's capabilities to be able to accomplish a precise task, such as successfully using BL techniques.

One interesting reflection is that BI demonstrated a weak direct effect on AU. On the other hand, PU and PEOU both demonstrated a significant direct effect on ATT. Besides, ATT also demonstrated a significant and strong effect on BI. One of the possible explanations for the weak effect of BI on actual usage is that, in universities, instructors may be told to use BL by their coordinators. As a result, a positive BI among instructors towards BL may not generate an increase in its actual use if coordinators do not require them to use BL techniques.

Another interesting observation from the educators' perspective, as identified from their answers, was that almost 70% believe that knowledge is student-constructed. And, as it was noted from the literature review, technology-improved instruction places additional commitments on the scholar for learning and fewer on the faculty member (Lucas, 2014). This is in agreement with Adams' (2012) assertion that continuous exploration and innovation are essential to shifting from instructor-controlled to learner-driven learning. Therefore, instructors think that student-constructed knowledge is important, and technology is aiding in removing passive learning (for example, the lecture) and freeing up time for more active learning, enabling new and exciting ways to build active learning into the physical and virtual classroom (Rollag & Billsberry, 2012). Therefore, when implementing such new technologies, it is suggested that universities stress this idea since technology can free up class lectures for more interactive student-constructed knowledge and help convince educators to actually apply such changes.

Based on the study above, the article suggests some notions to be taken into consideration that increase instructors' adoption, especially when planning to apply BL.

It is important to communicate and, to a degree, accept what is going to be done by instructors (Johler 2022). Neglecting to develop this understanding from people who most influence success or failure will surely harm implementation (Picciano, 2011). Explaining the purpose of using the suggested technology and creating Associate Provost and Associate Dean positions for educational technology and blended courses, since new changes usually necessitate a leader and a champion. Provide faculty incentives for transitioning their courses to blended formats in addition to improving support staff and infrastructure to assist faculty in the move or transition and employing full-time technology coordinators. Plan and establish physical facilities that fit technology-enhanced learning. Manage and plan to expand physical facilities, as more equipment is required and the task of managing it also grows, as well as prepare and train educators.

6. Conclusion

It was overly simplistic to imagine that instructors are ready to embrace BL. Although 40% of students have been using education technology in class for more than 5 years, accepting such a new way of teaching and learning was contrary to expectations. At first, one would imagine that of course instructors would grasp these technological innovations since they are advanced and forward-thinking, yet 46% did not use BL. Since faculty members are expected to have challenges with the move from a purely face-to-face educational model to a blended one, there is a need for adequate training that drives past the technicality of the learning platform and integrates learner-centered pedagogical exercises, which will become increasingly desirable (Tamim, 2018). The study identified issues universities should address when implementing BL. It identified the measure of progress in the implementation or degree of usage of BL. It discussed suggestions or implications for universities implementing BL from the perspective of learning organizations. It is worth mentioning that this study was conducted before the COVID-19 pandemic hit the globe; however, the teaching and learning techniques suggested in this study have been used in education in Lebanon (for the first time in some institutions) as crisis management. It was as if Lebanese educators needed a trigger like COVID-19 for initiation. Many educators used technology and distance learning techniques for the first time during these challenging times, which again shows the importance of PU for using technology as an innovative practical solution. Given the progressively prevalent use of the internet to convey education, it is expected that research opportunities will increase in the future, especially in the context of Lebanon. Hence, it is hoped that this paper will prompt further interest in this interesting and highly valuable line of research.

7. Limitations of the Study and Areas for Future Research

This study considered the acceptance and factors of adoption of BL as perceived by instructors as a teaching medium in Lebanon. There is a need for other studies to consider learners' acceptance of blended e-learning as a learning medium. A second limitation is related to the type of contract, where both full-time and part-time educators were included in the sample. Differences in technology integration by universities (which are likely to vary) would have affected part-timers' attitudes towards acceptance and usage of innovative technologies. That is why additional investigations on the factors influencing full-time instructors' adoption to the use of BL are suggested. A third limitation is related to the technology evaluated. The study used the planned model to evaluate different technologies rather than one technology. Most existing studies use the TAM and measure one technology at a time. A future study should measure only one technology or category for one assessment.

This research is limited to four higher learning institutions that might have different results compared to a study conducted for all higher learning institutions in Lebanon. The last limitation might be related to the age of the TAM research papers that formulated the theory adopted in this study. These papers were dated between 1985 and 2000.

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